

CLAIM AMENDMENTS

1-24 (Cancelled)

25. (New) A method for enabling a user to control display of information relating to a circuit including clocked storage elements and unclocked logic elements that communicate via signals including input signals to the circuit and output signals of the storage elements and logic elements, and relating to data indicating states of the signals at a succession of discrete times, the method comprising the steps of:

a. receiving input from the user selecting one of the succession of discrete times as a first discrete time and selecting an output signal of one of the storage elements of the circuit as a first signal;

b. identifying a first set of all signals of the circuit, other than output signals of its unclocked logic elements, for which the state of the first signal at the first discrete time is a function of the state of every signal of the first set at a second discrete time immediately preceding the first discrete time in said succession of discrete times; and

c. generating a display comprising first and second columns of symbols indicating signal states,

wherein the first column includes a symbol indicating the state of the selected first signal at the first discrete time, and excludes any other symbol indicating a state of any other signal, and

wherein the second column includes a separate symbol corresponding to each signal of the first set indicating a state of its corresponding signal at the second discrete time, and excluding any other symbol indicating a state of any other signal.

26. (New) The method in accordance with claim 25 wherein the display excludes any schematic representation of any portion of the circuit.

27. (New) The method in accordance with claim 25 further comprising the steps of:

d. receiving from the user a command to show circuit logic; and

e. responding to the command by displaying a schematic diagram only of a portion of the circuit that processes the signals of the first set produced at the second discrete time to produce the first signal at the first discrete time.

28. (New) The method in accordance with claim 25 further comprising the steps of:

d. receiving input from the user selecting one of the signals of the first set as a second signal and selecting the second discrete time;

f. identifying a second set of all signals of the circuit, other than output signals of unlocked logic elements, for which the state of the second signal at the second discrete time is a function of the state of every signal of the second set at a third discrete time immediately preceding the second discrete time in said succession of discrete times; and

g. adding to the display a third column including a separate symbol corresponding to each signal of the second set indicating a state of its corresponding signal at the third discrete time, and excluding any other symbol indicating a state of any other signal.

29. (New) The method in accordance with claim 28 wherein at step d, the user selects said one of the signals of the first set as a second signal and selects the second discrete time by selecting the symbol for the second signal in the second column.

30. (New) The method in accordance with claim 28 further comprising the step of:

h. receiving from the user a command to show circuit logic; and

i. responding to the command by generating a display of a schematic diagram only of a portion of the circuit that processes the second set of signals produced at the third discrete time to produce the first signal at the first discrete time.

31. (New) The method in accordance with claim 30 further comprising the step of:

h. receiving input from the user selecting another of the signals of the first set as a third signal and selecting the second discrete time;

i. identifying a third set of all signals of the circuit, other than output signals of unclocked logic elements, for which the state of the third signal at the second discrete time is a function of the state of every signal of the third set at the third discrete time immediately preceding the second discrete time in said succession of discrete times; and

j. adding to the third column of symbols a separate symbol corresponding to each signal of the third set indicating a state of its corresponding signal at the third discrete time.

32. (New) The method in accordance with claim 31

wherein at step d, the user selects the second signal and the second discrete time by selecting the symbol for the second signal in the second column, and

wherein at step h, the user selects the third signal and the second discrete time by selecting the symbol for the third signal in the second column.

33. The method in accordance with claim 31 further comprising the step of:

g. receiving a first command from the user; and

h. responding to the first command by adding to the display,

a separate fly line for each symbol in the second column corresponding to a signal of the first set, connecting that symbol to the symbol in the first column for the first signal,

a separate fly line for each symbol in the third column corresponding to a signal of the second set, connecting that symbol to the symbol in the second column for the second signal, and

a separate fly line for each symbol in the third column corresponding to a signal of the third set, connecting that symbol to the symbol in the second column for the third signal.

34. (New) The method in accordance with claim 33 further comprising the step of:

- i. receiving a second command from the user; and
- j. responding to the second command by identifying each signal of the second set that changed state from the third discrete time to the second discrete time, and by altering the display to visually distinguish every fly line in the display that connects the symbol in the second column corresponding to an identified signal of the second set to the symbol in the first column from every other fly line in the display.

35. (New) A method for enabling a user to control display of information relating to a circuit including clocked storage elements and unclocked logic elements that communicate via signals including input signals to the circuit and output signals of the storage elements and logic elements, and relating to data indicating states of the signals at a succession of discrete times, the method comprising the steps of

- a. receiving input from the user selecting one of the succession of discrete times as a first discrete time and selecting an output signal of one of the storage elements of the circuit as a first signal;

- b. identifying a first set of all storage element output signals of the circuit that are of a state at a second discrete time immediately following the first discrete time in said succession of discrete times that is a function of the state of the first signal at the first discrete time; and

- c. generating a display comprising first and second columns of symbols indicating signal states,

- wherein the first column includes a symbol indicating the state of the selected first signal at the first discrete time, and excludes any other symbol indicating a state of any other signal, and

- wherein the second column includes a separate symbol corresponding to each signal of the first set indicating a state of its corresponding signal at the second discrete time, and excludes any other symbol indicating a state of any other signal.

36. (New) The method in accordance with claim 35 wherein the display excludes any schematic representation of any portion of the circuit.

37. (New) The method in accordance with claim 35 further comprising the steps of:

- d. receiving from the user a command to show circuit logic; and
- e. responding to the command by displaying a schematic diagram only of a portion of the circuit that processes the first signal generated at the first discrete time to produce the signals of the second set at the second discrete time.

38. (New) The method in accordance with claim 35 further comprising the steps of:

- d. receiving input from the user selecting one of the signals of the first set as a second signal and selecting the second discrete time;

f. identifying a second set of all signals of the circuit other than output signals of unclocked logic elements, wherein every signal of the second set is of a state at a third discrete time immediately following the second discrete time in said succession of discrete times that is a function of the state of the second signal at the second discrete time; and

g. adding to the display a third column including a separate symbol corresponding to each signal of the second set indicating a state of its corresponding signal at the third discrete time, and excluding any other symbol indicating a state of any other signal.

39. (New) The method in accordance with claim 38 wherein at step d, the user selects said one of the signals of the first set as a second signal and selects the second discrete time by selecting the symbol for the second signal in the second column.

40. (New) The method in accordance with claim 38 further comprising the step of:

- h. receiving from the user a command to show circuit logic; and
- i. responding to the command by generating a display of a schematic diagram only of a portion of the circuit that processes the first signal produced at the first discrete time to produce the signals of the third set at the third discrete.

41. (New) The method in accordance with claim 39 further comprising the step of:

j. receiving input from the user selecting another of the signals of the first set as a third signal and selecting the second discrete time;

k. identifying a third set of all signals of the circuit, other than output signals of unclocked logic elements, wherein each signal of the third set is of a state at the third discrete time that is a function of the state of the third signal at the second discrete time; and

l. adding to the third column a separate symbol corresponding to each signal of the third set indicating a state of its corresponding signal at the third discrete time.

42. (New) The method in accordance with claim 41

wherein at step d, the user selects the second signal and the second discrete time by selecting the symbol for the second signal in the second column, and

wherein at step j, the user selects the third signal and the second discrete time by selecting the symbol for the third signal in the second column.